**Period: \_\_\_\_\_\_\_\_**

**Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Quadrilateral Project**

~RUBRIC~

|  |  |  |
| --- | --- | --- |
| **Square:**  **\_\_\_/21** | Congruent sides (1 point for each side length) | **\_\_\_\_/4** |
| Parallel & perpendicular sides (1 point each slope and perpendicular/parallel) | **\_\_\_\_/4** |
| Angles (1 point for each angle) | **\_\_\_\_/4** |
| Length of diagonals (1point for each diagonal) | **\_\_\_\_/2** |
| Diagonal midpoints (1point for midpoints, 1 point for bisecting or not) | **\_\_\_\_/2** |
| Diagonal intersection (1 point for perpendicular – or not) | **\_\_\_\_/1** |
| Perimeter(1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| Area (1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| **Rectangle:**  **\_\_\_/21** | Congruent sides (1 point for each side length) | **\_\_\_\_/4** |
| Parallel & perpendicular sides (1 point each slope and perpendicular/parallel) | **\_\_\_\_/4** |
| Angles (1 point for each angle) | **\_\_\_\_/4** |
| Length of diagonals (1point for each diagonal) | **\_\_\_\_/2** |
| Diagonal midpoints (1point for midpoints, 1 point for bisecting or not) | **\_\_\_\_/2** |
| Diagonal intersection (1 point for perpendicular – or not) | **\_\_\_\_/1** |
| Perimeter(1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| Area (1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| **Parallelogram:**  **\_\_\_/21** | Congruent sides (1 point for each side length) | **\_\_\_\_/4** |
| Parallel & perpendicular sides (1 point each slope and perpendicular/parallel) | **\_\_\_\_/4** |
| Angles (1 point for each angle) | **\_\_\_\_/4** |
| Length of diagonals (1point for each diagonal) | **\_\_\_\_/2** |
| Diagonal midpoints (1point for midpoints, 1 point for bisecting or not) | **\_\_\_\_/2** |
| Diagonal intersection (1 point for perpendicular – or not) | **\_\_\_\_/1** |
| Perimeter(1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| Area (1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| **Rhombus:**  **\_\_\_/21** | Congruent sides (1 point for each side length) | **\_\_\_\_/4** |
| Parallel & perpendicular sides (1 point each slope and perpendicular/parallel) | **\_\_\_\_/4** |
| Angles (1 point for each angle) | **\_\_\_\_/4** |
| Length of diagonals (1point for each diagonal) | **\_\_\_\_/2** |
| Diagonal midpoints (1point for midpoints, 1 point for bisecting or not) | **\_\_\_\_/2** |
| Diagonal intersection (1 point for perpendicular – or not) | **\_\_\_\_/1** |
| Perimeter(1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| Area (1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| **Kite:**  **\_\_\_/21** | Congruent sides (1 point for each side length) | **\_\_\_\_/4** |
| Parallel & perpendicular sides (1 point each slope and perpendicular/parallel) | **\_\_\_\_/4** |
| Angles (1 point for each angle) | **\_\_\_\_/4** |
| Length of diagonals (1point for each diagonal) | **\_\_\_\_/2** |
| Diagonal midpoints (1point for midpoints, 1 point for bisecting or not) | **\_\_\_\_/2** |
| Diagonal intersection (1 point for perpendicular – or not) | **\_\_\_\_/1** |
| Perimeter(1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| Area (1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| **Trapezoid:**  **\_\_\_/21** | Congruent sides (1 point for each side length) | **\_\_\_\_/4** |
| Parallel & perpendicular sides (1 point each slope and perpendicular/parallel) | **\_\_\_\_/4** |
| Angles (1 point for each angle) | **\_\_\_\_/4** |
| Length of diagonals (1point for each diagonal) | **\_\_\_\_/2** |
| Diagonal midpoints (1point for midpoints, 1 point for bisecting or not) | **\_\_\_\_/2** |
| Diagonal intersection (1 point for perpendicular – or not) | **\_\_\_\_/1** |
| Perimeter(1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| Area (1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| **Isosceles Trapezoid:**  **\_\_\_/21** | Congruent sides (1 point for each side length) | **\_\_\_\_/4** |
| Parallel & perpendicular sides (1 point each slope and perpendicular/parallel) | **\_\_\_\_/4** |
| Angles (1 point for each angle) | **\_\_\_\_/4** |
| Length of diagonals (1point for each diagonal) | **\_\_\_\_/2** |
| Diagonal midpoints (1point for midpoints, 1 point for bisecting or not) | **\_\_\_\_/2** |
| Diagonal intersection (1 point for perpendicular – or not) | **\_\_\_\_/1** |
| Perimeter(1point for formula, 1 point for computation) | **\_\_\_\_/2** |
| Area (1point for formula, 1 point for computation) | **\_\_\_\_/2** |

~RULES~

-Leave all answers in simplified radical form (when possible)

-All work must be shown

-Summaries must be in complete sentences

-Use calculator as little as possible

SQUARE:

Square VWXY has the coordinates V(-4, 2); W(1,4); X(-2,-3); Y(3,-1).

*Properties of Sides:*

Determine which sides are congruent

-Use Distance Formula

Determine which sides are parallel/perpendicular

-Use Slope Formula

*Properties of Angles:*

Determine which angles are congruent

-Use trig functions and angle congruency properties if possible/necessary.

*Properties of Diagonals:*

Determine if diagonals are congruent

-Use Distance Formula

Determine if diagonals bisect each other

-Use Midpoint Formula

Determine if diagonals are perpendicular

-Use Slope Formula

*Formulas:*

How do you find the perimeter?

-Look up in the book or online

How do you find the area?

-Look up in the book or online

*Summary:*

Write a 1 paragraph summary summarizing all the above.

RECTANGLE:

Rectangle ABCD has the coordinates A(-6,1); B(6, 4); C(-5, -3); D(7, 0).

*Properties of Sides:*

Determine which sides are congruent

-Use Distance Formula

Determine which sides are parallel/perpendicular

-Use Slope Formula

*Properties of Angles:*

Determine which angles are congruent

-Use trig functions and angle congruency properties if possible/necessary.

*Properties of Diagonals:*

Determine if diagonals are congruent

-Use Distance Formula

Determine if diagonals bisect each other

-Use Midpoint Formula

Determine if diagonals are perpendicular

-Use Slope Formula

*Formulas:*

How do you find the perimeter?

-Look up in the book or online

How do you find the area?

-Look up in the book or online

*Summary:*

Write a 1 paragraph summary summarizing all the above.

PARALLELOGRAM:

Parallelogram JKMN has the coordinates J(-7, 3); K(7, 3); M(5, -1); N(-9, -1).

*Properties of Sides:*

Determine which sides are congruent

-Use Distance Formula

Determine which sides are parallel/perpendicular

-Use Slope Formula

*Properties of Angles:*

Determine which angles are congruent

-Use trig functions and angle congruency properties if possible/necessary.

To make right triangles you will need to generate the equation of a perpendicular line and then use solve for solutions using systems of equations.

*Properties of Diagonals:*

Determine if diagonals are congruent

-Use Distance Formula

Determine if diagonals bisect each other

-Use Midpoint Formula

Determine if diagonals are perpendicular

-Use Slope Formula

*Formulas:*

How do you find the perimeter?

-Look up in the book or online

How do you find the area?

-Look up in the book or online

-To make right triangles you will need to generate the equation of a perpendicular line and then use solve for solutions using systems of equations to solve for the point. With this point you can find the distance which will be your height.

*Summary:*

Write a 1 paragraph summary summarizing all the above.

RHOMBUS:

Rhombus PQRS has the coordinates P(1, 2); Q(11, 2); R(5, -6); S(-5, -6).

*Properties of Sides:*

Determine which sides are congruent

-Use Distance Formula

Determine which sides are parallel/perpendicular

-Use Slope Formula

*Properties of Angles:*

Determine which angles are congruent

-Use trig functions and angle congruency properties if possible/necessary.

To make right triangles you will need to generate the equation of a perpendicular line and then use solve for solutions using systems of equations.

*Properties of Diagonals:*

Determine if diagonals are congruent

-Use Distance Formula

Determine if diagonals bisect each other

-Use Midpoint Formula

Determine if diagonals are perpendicular

-Use Slope Formula

*Formulas:*

How do you find the perimeter?

-Look up in the book or online

How do you find the area?

-Look up in the book or online

-To make right triangles you will need to generate the equation of a perpendicular line and then use solve for solutions using systems of equations to solve for the point. With this point you can find the distance which will be your height.

*Summary:*

Write a 1 paragraph summary summarizing all the above.

KITE:

Kite ABCD has the coordinates A(-3, -2); B(2,1); C(4, -2) and D(2, -5)

*Properties of Sides:*

Determine which sides are congruent

-Use Distance Formula

Determine which sides are parallel/perpendicular

-Use Slope Formula

*Properties of Angles:*

Determine which angles are congruent

-Use trig functions and angle congruency properties if possible/necessary.

*Properties of Diagonals:*

Determine if diagonals are congruent

-Use Distance Formula

Determine if diagonals bisect each other

-Use Midpoint Formula

Determine if diagonals are perpendicular

-Use Slope Formula

*Formulas:*

How do you find the perimeter?

-Look up in the book or online

How do you find the area?

-Look up in the book or online

*Summary:*

Write a 1 paragraph summary summarizing all the above.

TRAPEZOID:

Trapezoid ABCD has the coordinates A(-9, -2); B(-4, 8); C(8, 8) and D(10, -2)

*Properties of Sides:*

Determine which sides are congruent

-Use Distance Formula

Determine which sides are parallel/perpendicular

-Use Slope Formula

*Properties of Angles:*

Determine which angles are congruent

-Use trig functions and angle congruency properties if possible/necessary.

*Properties of Diagonals:*

Determine if diagonals are congruent

-Use Distance Formula

Determine if diagonals bisect each other

-Use Midpoint Formula

Determine if diagonals are perpendicular

-Use Slope Formula

*Formulas:*

How do you find the perimeter?

-Look up in the book or online

How do you find the area?

-Look up in the book or online

*Summary:*

Write a 1 paragraph summary summarizing all the above.

ISOSCELES TRAPEZOID:

Isosceles Trapezoid ABCD has the coordinates A(0, -2); B(9, 1); C(4, 6) and D(1, 5)

*Properties of Sides:*

Determine which sides are congruent

-Use Distance Formula

Determine which sides are parallel/perpendicular

-Use Slope Formula

*Properties of Angles:*

Determine which angles are congruent

-Use trig functions and angle congruency properties if possible/necessary.

*Properties of Diagonals:*

Determine if diagonals are congruent

-Use Distance Formula

Determine if diagonals bisect each other

-Use Midpoint Formula

Determine if diagonals are perpendicular

-Use Slope Formula

*Formulas:*

How do you find the perimeter?

-Look up in the book or online

How do you find the area?

-Look up in the book or online

*Summary:*

Write a 1 paragraph summary summarizing all the above.